

What Is Claimed Is:

1. A bisphenolic composition comprising:

a bisphenolic stillbottom; and

a solvent;

5 wherein the bisphenolic composition is a single phase.

2. The solution of Claim 1 further comprising:

an amount of the bisphenolic stillbottom of from about 99% to about 85% based on the weight of the solution; and

10 an amount of the solvent of from about 1% to about 15% based on the weight of the solution;

wherein the sum of the percentage of bisphenolic stillbottom present in the solution and the percentage of the solvent in the bisphenolic stillbottom is about 100%

- 15 3. The solution of Claim 2 wherein the bisphenolic stillbottom is present in an amount of from about 99% to about 90% and the solvent is present in an amount of from about 1% to about 10%.

- 20 4. The solution of Claim 2 wherein the bisphenolic stillbottom comprises:

p,p-Bisphenol A 10% – 84%;

o,p-Bisphenol A 0% – 30%;

Trisphenol 10% – 25%;

Chroman-I 0% – 3%;

25 Phenol 0% – 25%; and

Other Phenol-Acetone 45% – 75%

Reaction Products;

wherein, the phenol-acetone reaction products do not include p,p-Bisphenol A, o,p-Bisphenol A, trisphenol, Chroman I. and phenol.

- 30 5. The solution of Claim 1 wherein the solvent is selected from the group consisting of water, acetone, methylethylketone, isopropyl alcohol, phenol and toluene.

6. The solution of Claim 5 wherein the solvent is water.
7. The solution of Claim 5 wherein the solvent is a mixture of water and acetone.
- 5 8. A method for making a stable composition of a bisphenolic stillbottom and a solvent, the method comprising the steps of:
heating the bisphenolic stillbottom to a temperature of from about 65°C to about 170°C;
10 adding the solvent to the heated bisphenolic stillbottom; and
mixing the solvent and the bisphenolic stillbottom for a period of time sufficient for the solvent and the bisphenolic stillbottom to form a single-phase composition.
9. The method of Claim 8 wherein the bisphenolic stillbottom is heated to a
15 temperature of from about 120°C to about 150°C.
10. The method of Claim 8 wherein the bisphenolic stillbottom and the solvent are mixed for about 30 minutes to about 60 minutes.
- 20 11. The method of Claim 8 further comprising refluxing the solvent.
12. The method of Claim 8 wherein the temperature of the solvent at the time the solvent is added to the bisphenolic stillbottom is from about 25°C to about 40°C.
- 25 13. The method of Claim 8 wherein the solvent is selected from the group consisting of water, acetone, methylethylketone, isopropyl alcohol, phenol and toluene.
14. The method of Claim 13 wherein the solvent is water.
- 30 15. The method of Claim 13 wherein the solvent is a mixture of water and acetone.

16. A method for making a stable composition of a bisphenolic stillbottom and a solvent, the method comprising the steps of:

heating the bisphenolic stillbottom to a temperature of from about 65°C to about 170°C;

5 metering the solvent into the bisphenolic stillbottom over a period of time ranging from about 5 minutes to about 60 minutes while mixing the bisphenolic stillbottom; and

mixing the bisphenolic stillbottom and the solvent for a period of time ranging from about 5 minutes to about 30 minutes.

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17. The method of Claim 16 wherein the bisphenolic stillbottom is heated to a temperature of from about 120°C to about 150°C.

18. The method of Claim 16 further comprising refluxing the solvent.

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19. The method of Claim 16 wherein the temperature of the solvent at the time the solvent is added to the bisphenolic stillbottom is from about 25°C to about 40°C.

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20. The method of Claim 16 wherein the solvent is selected from the group consisting of water, acetone, methylethylketone, isopropyl alcohol, phenol and toluene.

21. The method of Claim 20 wherein the solvent is water.

22. The method of Claim 20 wherein the solvent is a mixture of water and acetone.

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23. The product of mixing:
a bisphenolic stillbottom having a temperature of from about 65°C to about 170°C; and

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a solvent;
wherein the product is a single-phase composition.

24. The product of Claim 23 wherein the bisphenolic stillbottom has a temperature of from about 120°C to about 150°C.

25. The product of Claim 23 wherein the solvent is selected from the group consisting of water, acetone, methylethylketone, isopropyl alcohol, phenol and toluene.

26. The product of Claim 25 wherein the solvent is water.

27. The product of Claim 25 wherein the solvent is a mixture of water and acetone.

28. A resin comprising:
a condensate of a phenolic compound, an aldehyde and a single-phase composition of a bisphenolic stillbottom and a solvent.

29. The resin of Claim 28 wherein the phenolic compound is selected from the group consisting of phenol, cresol, xylene, alkyl substituted phenol, bisphenol A, bisphenol F, and combinations thereof.

30. The resin of Claim 28 wherein the aldehyde is selected from the group consisting of formaldehyde, acetaldehyde, propionaldehyde, n-butyraldehyde, isobutyraldehyde, benzaldehyde, glyoxal, furfural, and combinations thereof.

31. The resin of Claim 28 wherein the single-phase composition comprises:
an amount of the bisphenolic stillbottom of from about 99% to about 85% based on the weight of the solution; and
an amount of the solvent of from about 1% to about 15% based on the weight of the solution.

32. The resin of Claim 28 further comprising an alcohol.

33. The resin of Claim 28 wherein the solvent is selected from the group consisting of water, acetone, methylethylketone, isopropyl alcohol, and toluene.

34. The resin of Claim 33 wherein the solvent is water.
35. The resin of Claim 33 wherein the solvent is a mixture of water and acetone.
36. A resin comprising the product of mixing and reacting:
a phenolic compound;
an aldehyde; and
a single-phase composition of a bisphenolic stillbottom and a solvent.
37. The resin of Claim 36 wherein the phenolic compound is selected from the group consisting of phenol, cresol, xlenol, alkyl substituted phenol, bisphenol A, bisphenol F, and combinations thereof.
38. The resin of Claim 36 wherein the aldehyde is selected from the group consisting of formaldehyde, acetaldehyde, propionaldehyde, n-butyraldehyde, isobutyraldehyde, benzaldehyde, glyoxal, furfural, and combinations thereof.
39. The resin of Claim 36 wherein the single-phase composition comprises:
an amount of the bisphenolic stillbottom of from about 99% to about 85% based on the weight of the solution; and
an amount of the solvent of from about 1% to about 15% based on the weight of the solution.
40. The resin of Claim 39 wherein the single-phase composition comprises:
an amount of bisphenolic stillbottom of from about 99% to about 90%;
and
an amount of the solvent of from about 1% to about 10%.
41. The resin of Claim 36 wherein the solvent is selected from the group consisting of water, acetone, methylethylketone, isopropyl alcohol, phenol and toluene.

42. The resin of Claim 41 wherein the solvent is water.

43. The resin of Claim 41 wherein the solvent is a mixture of water and acetone.

5 44. A method of making a resin, the method comprising:
mixing and reacting a phenolic compound, an aldehyde, and a resole catalyst to
produce a reaction product;
determining a water tolerance of the reaction product;
adding a bisphenolic compound to the reaction product when the water tolerance
10 is from about 400% to about 1100%; and
mixing and reacting the reaction product and the bisphenolic compound.

15 45. The method of Claim 44 wherein the phenolic compound is selected from the
group consisting of phenol, cresol, xlenol, alkyl substituted phenol, bisphenol A,
bisphenol F, and combinations thereof.

20 46. The method of Claim 44 wherein the aldehyde is selected from the group
consisting of formaldehyde, acetaldehyde, propionaldehyde, n-butyraldehyde,
isobutyraldehyde, benzaldehyde, glyoxal, furfural, and combinations thereof.

47. The method of Claim 44 wherein the resole catalyst is selected from the group
consisting of sodium hydroxide, sodium carbonate, alkaline earth oxides, alkaline earth
hydroxides, ammonia, HMTA, and tertiary amines.

25 48. The method of Claim 44 wherein the resole catalyst is a divalent metal salt.

49. The method of Claim 44 wherein the bisphenolic compound is a bisphenolic
stillbottom.

30 50. The method of Claim 44 wherein the bisphenolic compound is bisphenol A.

51. The method of Claim 44 wherein the bisphenolic compound is bisphenol F.

52. The method of Claim 44 wherein the bisphenolic compound is a single-phase composition of bisphenolic stillbottom and a solvent.
- 5 53. The method of Claim 52 wherein the single-phase composition comprises an amount of the bisphenolic stillbottom of from about 99% to about 85% based on the weight of the solution; and an amount of the solvent of from about 1% to about 15% based on the weight of the solution.
- 10 54. A method of making a resin, the method comprising:
mixing and reacting a phenolic compound, an aldehyde, a bisphenolic stillbottom and a novolac catalyst to produce a reaction product.
- 15 55. The method of Claim 54 wherein the bisphenolic compound is a single-phase composition of bisphenolic stillbottom and a solvent.
- 20 56. The method of Claim 54 wherein the single-phase composition comprises an amount of the bisphenolic stillbottom of from about 99% to about 85% based on the weight of the solution; and an amount of the water of from about 1% to about 15% based on the weight of the solution.
- 25 57. A resin comprising the product of mixing and reacting:
a reaction product comprising the product of mixing and reacting a phenolic compound, an aldehyde, and a resole catalyst, the reaction product having a water tolerance of from about 400% to about 1100%; and
a bisphenolic compound.
- 30 58. The resin of Claim 57 wherein the phenolic compound is selected from the group consisting of phenol, cresol, xylenol, alkyl substituted phenol, bisphenol A, bisphenol F, bisphenolic stillbottoms, and combinations thereof.

59. The resin of Claim 57 wherein the bisphenolic compound is a bisphenolic stillbottom.

60. The resin of Claim 57 wherein the bisphenolic compound is a single-phase composition of bisphenolic stillbottom and a solvent.

61. The resin of Claim 57 wherein the single-phase composition comprises an amount of the bisphenolic stillbottom of from about 99% to about 85% based on the weight of the solution; and an amount of the solvent of from about 1% to about 15% based on the weight of the solution.

62. A resin impregnated product comprising:
a substrate; and
an effective amount of the resin of Claim 28;
wherein the substrate is impregnated with the resin.

63. A resin impregnated product comprising:
a substrate; and
an effective amount of the resin of Claim 32;
wherein the substrate is impregnated with the resin.

64. A resin impregnated product comprising:
a substrate; and
an effective amount of the resin of Claim 36;
wherein the substrate is impregnated with the resin.